Virtual Elementary Nonwovens Training Course Agenda

**DAY 1**

Training is performed in Eastern Daylight Time (EDT)

10:00 am  Introductions
10:10 am  Welcome to the world of engineered fabrics
10:14 am  **Module 1: Basics of Nonwovens**
  - Definition of nonwoven
  - Nonwoven markets
  - Products and description
  - Producing a nonwoven
    - Raw material
    - Web formation
    - Bonding
    - Finishing
  - Raw material selection
    - Fibers
    - Polymers
    - Shapes

10:52 am  **Module 1 Q & A**

11:07 am  **Module 2: Web Formation – Carding**
  - Fiber opening and blending
  - Carding
  - Machine details
  - Randomized web
  - Web attributes
  - Applications

11:37 am  **Module 2 Q & A**
Module 3: Web Formation – Air Laid
- Air laid processes
  - Long fiber
  - Short fiber
- Machine details
- Web attributes
- Applications

Module 3 Q & A

BREAK

Module 4: Web Formation – Wet Laid
- Wet laid process
- Machine details
- Web attributes
- Applications

Module 4 Q & A

Module 5: Melt Spinning – Spunbond
- Spunbond Process
- Machine details
- Web attributes
- Applications

Module 5 Q & A

Module 6: Melt Spinning – Meltblown
- Meltblown Process
- Machine details
- Web attributes
- Applications

Module 6 Q & A

Module 7: Bonding – Chemical
- Chemical bonding processes
  - Gravure printing
  - Dip and nip
  - Foam padder
  - Spray
  - Powder
- Additives
- Dry and cure
- Applications

Module 7 Q & A

Course Concludes for the Day
DAY 2

10:00 am  Module 8: Bonding – Needlepunch
- Needle punching process
- Machine details
- Needle technologies
- Fabric properties
- End products

10:29 am  Module 8 Q & A

10:59 am  Module 9: Bonding – Hydroentangling
- Hydroentangling process
- Machine details
- Fabric properties
- End products

11:26 am  Module 9 Q & A

11:41 am  Module 10: Bonding – Thermal
- Thermal bonding processes
  o Calender
  o Through air
  o Infrared
  o Ultrasonic
- Fabric properties
- End products

12:01 pm  Module 10 Q & A

12:16 pm  Module 11: Stitch Bonding

12:20 pm  Module 11 Q & A

12:30 pm  BREAK

2:00 pm  Module 12: Finishing and Converting
- Chemical
- Mechanical
- End products

2:14 pm  Module 12 Q & A

2:29 pm  Module 13: Product Development
- Product example - Diaper
- Product development process

2:42 pm  Module 13 Q & A
Module 14: Worldwide Nonwovens – Statistics and Trends
Brad Kalil - INDA

Module 15: Nonwovens Industry Response to COVID-19 Pandemic
Special Topics, Dave Rousse – INDA
- Flushability
- Plastics in the environment

Module 15 Q & A

Closing Comments

Course Concludes

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